

U.S. Patent Application Serial No. 10/568,420  
Amendment filed September 7, 2010  
Reply to OA dated August 11, 2010

**AMENDMENTS TO THE CLAIMS:**

Please amend claims 1, 8-10, and 15, as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently amended): A non-aqueous electrolyte battery comprising: a positive electrode, a negative electrode, and a non-aqueous electrolyte, the positive electrode having a positive electrode active material-containing layer formed on a positive electrode current collector and containing an olivine-type lithium phosphate as a positive electrode active material, characterized in that:

the positive electrode current collector has a thickness of less than 20  $\mu\text{m}$ , and a surface of the positive electrode current collector that is in contact with the positive electrode active material-containing layer has a mean surface roughness Ra of greater than 0.026  $\mu\text{m}$ ; wherein the positive electrode active material-containing layer contains a conductive agent and the conductive agent has BET specific surface area of 15  $\text{m}^2/\text{g}$  or greater.

Claim 2 (Original): The non-aqueous electrolyte battery according to claim 1, wherein the olivine-type lithium phosphate is lithium iron phosphate.

U.S. Patent Application Serial No. **10/568,420**  
Amendment filed September 7, 2010  
Reply to OA dated August 11, 2010

Claim 3 (Original): The non-aqueous electrolyte battery according to claim 1, wherein the positive electrode current collector is an aluminum foil subjected to a roughened process and has a mean surface roughness Ra of less than 0.20  $\mu\text{m}$ .

Claim 4 (Original): The non-aqueous electrolyte battery according to claim 2, wherein the positive electrode current collector is an aluminum foil subjected to a roughened process and has a mean surface roughness Ra of less than 0.20  $\mu\text{m}$ .

Claim 5 (Original): The non-aqueous electrolyte battery according to claim 3, wherein the roughening process is carried out by polishing by blasting.

Claim 6 (Original): The non-aqueous electrolyte battery according to claim 4, wherein the roughening process is carried out by polishing by blasting.

Claim 7 (Original): The non-aqueous electrolyte battery according to claim 2, wherein the lithium iron phosphate has an average particle size of 10  $\mu\text{m}$  or less.

Claim 8 (Currently amended): The non-aqueous electrolyte battery according to claim 1, wherein ~~the positive electrode active material-containing layer contains a conductive agent, the~~

U.S. Patent Application Serial No. **10/568,420**  
Amendment filed September 7, 2010  
Reply to OA dated August 11, 2010

~~conductive agent has a BET specific surface area of  $15 \text{ m}^2/\text{g}$  or greater, and the positive electrode~~  
active material-containing layer has a filling density of  $1.7 \text{ g/cm}^3$  or greater.

Claim 9 (Currently amended): The non-aqueous electrolyte battery according to claim 2,  
wherein ~~the positive electrode active material-containing layer contains a conductive agent, the~~  
~~conductive agent has a BET specific surface area of  $15 \text{ m}^2/\text{g}$  or greater, and the positive electrode~~  
active material-containing layer has a filling density of  $1.7 \text{ g/cm}^3$  or greater.

Claim 10 (Currently amended): The non-aqueous electrolyte battery according to claim 4,  
wherein ~~the positive electrode active material-containing layer contains a conductive agent, the~~  
~~conductive agent has a BET specific surface area of  $15 \text{ m}^2/\text{g}$  or greater, and the positive electrode~~  
active material-containing layer has a filling density of  $1.7 \text{ g/cm}^3$  or greater.

Claim 11 (Original): The non-aqueous electrolyte battery according to claim 8, wherein the  
positive electrode active material-containing layer has a filling density of  $3.15 \text{ g/cm}^3$  or less.

Claim 12 (Original): The non-aqueous electrolyte battery according to claim 9, wherein the  
positive electrode active material-containing layer has a filling density of  $3.15 \text{ g/cm}^3$  or less.

Claim 13 (Original): The non-aqueous electrolyte battery according to claim 1, wherein carbon is superficially coated on, or adhered to, the positive electrode active material particles.

Claim 14 (Original): The non-aqueous electrolyte battery according to claim 1, wherein a portion of lithium sites in the positive electrode active material is substituted by a transition metal.

Claim 15 (Currently amended): A non-aqueous electrolyte battery comprising: a positive electrode, a negative electrode, and a non-aqueous electrolyte, the positive electrode having a positive electrode active material-containing layer that is formed on a positive electrode current collector and contains an olivine-type lithium phosphate as a positive electrode active material and a conductive agent, and the negative electrode containing a negative electrode capable of intercalating and deintercalating lithium, characterized in that:

the conductive agent has a BET specific surface area of  $15 \text{ m}^2/\text{g}$  or greater, and the positive electrode active material-containing layer has a filling density of  $1.7 \text{ g/cm}^3$  or greater.

Claim 16 (Original): The non-aqueous electrolyte battery according to claim 15, wherein the olivine-type lithium phosphate is lithium iron phosphate.

Claim 17 (Original): The non-aqueous electrolyte battery according to claim 15, wherein the positive electrode active material-containing layer has a filling density of  $3.15 \text{ g/cm}^3$  or less.

U.S. Patent Application Serial No. **10/568,420**  
Amendment filed September 7, 2010  
Reply to OA dated August 11, 2010

Claim 18 (Original): The non-aqueous electrolyte battery according to claim 16, wherein the positive electrode active material-containing layer has a filling density of  $3.15 \text{ g/cm}^3$  or less.